REMARKS

This is further in response to the outstanding Office Action dated February 25, 2008. The claims now pending in the application are claims 1-38. Applicants previously withdrew, without prejudice or disclaimer, claims 1-14 and 19-22. Applicants have amended independent claims 15, 16 and 23. Applicants respectfully request withdrawal of the outstanding rejections and allowance of the claims.

Applicants have amended paragraph [0029] on page 10 to better define the invention. Support for the amended paragraph can be found in paragraph [0018] and in Fig. 3. No new matter has been added.

In the outstanding Office Action, independent claim 38 was finally rejected under 35 U.S.C. §103(a) as being unpatentable over Ingram (U.S. 3,084,059) in view of Kiik (U.S. 6,585,813). This final rejection is respectfully traversed.

It is well established that all claim limitations must be taught or suggested. As set forth in the MPEP, at least at §2143.03, in order to establish *prima facie* obviousness of a claimed invention, all words in a claim must be considered in judging the patentability of that claim against the prior art, citing *In Re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). In this regard, Applicants respectfully assert the Examiner has failed to consider the limitation contained in independent claim 38 wherein the first portion of granules deposited on the asphalt coated sheet are prime granules. Prime granules are well known to those skilled in the art as granules typically applied to the prime region of a shingle, where the prime region of a shingle is the region of the shingle that is visible when the shingle is installed upon a roof. Prime granules are well known to have functional requirements for protecting the underlying asphalt strip as well as providing an aesthetically pleasing appearance of the roof.

In the outstanding office action, the Examiner asserts the Ingram reference discloses an asphalt covered felt material which has aggregate particles applied thereto. However, the aggregate particles of Ingram are not prime

granules. Rather the aggregate particles of Ingram can be a mixture of rock particles and can also be waste or by-product materials, such as ceramic scrap, tile scrap and furnace slag (column 1, lines 12-15). The aggregate particles of Ingram are not prime granules are known by those skilled in the art. As a result, the aggregate particles of Ingram can be much less expensive that the prime granules in independent claim 38. The Examiner is silent as to the limitation that the aggregate particles of Ingram are prime granules. Accordingly, Applicants respectfully request the finality of the rejection of independent claim 38 be withdrawn and assert independent claim 38 is patentable as written.

In the outstanding Office Action, independent claims 15, 16 and 23 were finally rejected under 35 U.S.C. §103(a) as being unpatentable over Ingram (U.S. 3,084,059) in view of Kiik (U.S. 6,585,813).

Independent claims 15, 16 and 23 have been amended to provide a structural limitation wherein the first portion of granules remains substantially on the upper surface of the asphalt coated sheet.

In the outstanding Office Action, the Examiner asserts that Ingram discloses all of the limitations of Applicants' independent claims 15, 16 and 23 with the exception of applying a second portion of aggregates that are anti-microorganism granules.

However, the roofing shingle disclosed in Ingram does not disclose the method claimed in Applicants' amended independent claims 15, 16 and 23 for several reasons.

First, the Ingram reference does not disclose the step of depositing a first portion of granules onto the asphalt coated sheet wherein the first portion of granules remains substantially on the upper surface of the asphalt coated sheet. Rather, the Ingram reference discloses a roofing material, consisting of a mixture of rock particles of varying sizes, applied to molten asphalt (column 7, lines 12-14). When applied to the molten asphalt, the roofing material is generally evenly distributed in layers throughout the asphalt matrix. Various sizes of the roofing material can be found in the various layers (column 3, lines 54-74). There is simply no reference in the Ingram reference of depositing a first portion

of granules onto the asphalt coated sheet wherein the first portion of granules remains substantially on the upper surface of the asphalt coated sheet as claimed in Applicants' amended independent claims 15, 16 and 23.

Second, the Ingram reference does not disclose the application of shingle granules to an asphalt coated sheet. Rather, the Ingram reference discloses a roofing material, consisting of a mixture of rock particles of varying sizes, applied to and incorporated within the molten asphalt (column 7, lines 12-14). The roofing material can be a mixture of rock particles and can also be waste or by-product materials, such as ceramic scrap, tile scrap and furnace slag (column 1, lines 12-15). In the outstanding Office Action, the Examiner asserts the particles of Ingram read on the first portion of granules in Applicants' independent claims 15, 16 and 23. However, Applicants assert that one skilled in the art would appreciate that the shingle granules deposited on an asphalt coated sheet as claimed in Applicants' amended independent claims 15, 16 and 23, are structurally different than the roofing material used in the Ingram reference. The shingle granules claimed in Applicants' amended independent claims 15, 16 and 23 are well known by those skilled in the art and consist of materials treated with a ceramic coating. The granules, having the ceramic coating, resist weathering of the roofing material by protecting the asphalt from UV light. While the granules help protect the underlying asphalt coated sheet, the granules also provide an aesthetically pleasing roof appearance (page 1, paragraph [0003]) and can be combined into blend drops to provide a desired appearance, such as for example a weathered wood appearance or a slate appearance. One skilled in the art can appreciate the ceramic coating and coloring of the granules result in granules that are relatively expensive compared to filler roofing material. Given the cost difference between the roofing material disclosed in Ingram and the granules claimed in Applicants' amended independent claims 15, 16 and 23, no one skilled in the art would ever use the granules as the roofing material in the Ingram reference.

In the outstanding Office Action, the Examiner notes that the Ingram reference does not disclose the step of applying a second portion of aggregates

that are anti-microorganism granules. To overcome this deficiency, the Examiner relies on Kiik. The Examiner asserts that Kiik teaches surface covering asphaltic roofing shingles with anti-microbial copper or tin particles. The particles are applied such that they may enter part-way into the asphalt, but desirably remain on the surface so that they remain active.

However, a combination of the Ingram and Kiik references, taken in a light most favorable to the Examiner, does not teach or disclose the invention as claimed in Applicants' amended independent claims 15, 16 and 23 for several reasons.

First, a combination of the Ingram and Kiik references fails to teach or disclose the step of depositing a first portion of granules onto the asphalt coated sheet wherein the first portion of granules remains substantially on the upper surface of the asphalt coated sheet. Rather, as described above, the Ingram reference discloses various sizes of roofing material found in various layers throughout the asphalt matrix.

Second, a combination of the Ingram and Kiik references fails to teach or disclose the use of shingle granules (weather resistant, relatively expensive ceramic coated material providing an aesthetically pleasing appearance as described above) as a first portion applied to the asphalt coated sheet. Rather, the Ingram reference discloses a roofing material, consisting of a mixture of rock particles of varying sizes or scrap material.

Third, a combination of the Ingram and Kiik references fails to teach or disclose a two-step process including a first step of applying a first portion of granules to the upper surface of the asphalt covered sheet, wherein the first portion remains substantially on the upper surface, and a second step of applying a second portion over the first portion, wherein the second portion is a mixture of granules and microorganism granules. Rather, the Ingram reference teaches roofing material occurring generally throughout the asphalt matrix and Kiik simply discloses one or more components having antimicrobial potential applied to the surface covering building material.

Dependent claims 24-30 depend on amended claim 15 and for at least this reason, are also patentable.

Dependent claims 17-18 and 31-37 depend on amended claim 16 and for at least this reason, are also patentable.

In the event the Examiner does not find the arguments presented above sufficiently persuasive to show that the present claims are patentable, Applicants are supplying a Declaration with additional evidence as to patentability. The Declaration, executed by Mr. Lawrence J. Grubka, states that the level of ordinary skill in the field of shingle design would be that of a product or process engineer with at least a Bachelor's degree in engineering or science, and with at least five years of shingle process or product design experience. Mr. Grubka, a Senior Engineer employed by Owens Corning, has worked in various research and development capacities for the last 31 years, and has, most relevantly, experience as a project leader or lead researcher for projects involving algae and microorganism resistant shingles.

Mr. Grubka further states the filler roofing material disclosed in the U.S. Patent No. 3,084,059 to Ingram is structurally different than the first portion of granules deposited on the asphalt coated sheet as claimed in Applicants' amended independent claims 15, 16 and 23. The reasons for the structural difference include:

1. The roofing material of Ingram is generally evenly distributed throughout various layers formed in the asphalt matrix whereas in the current application, the first portion of granules are deposited on the asphalt coated sheet remains substantially on the upper surface of the asphalt coated sheet.
2. The roofing material of Ingram consists of a mixture of rock particles and/or waste or by-product materials such as ceramic scrap, tile scrap and furnace slag. In contrast, the first portion of granules deposited on the asphalt coated sheet consists of shingle granules well known by those skilled in the art to be materials treated with a ceramic coating.

3. The purpose of the roofing material disclosed in Ingram is to displace a voluminous quantity of asphalt thereby extending the use of the asphalt and lowering the cost of the shingles. In contrast, the purpose of the first portion of shingle granules deposited on the asphalt coated sheet is to protect the asphalt from harmful ultraviolet light while at the same time presenting an aesthetically pleasing appearance.
4. The roofing material of Ingram is intended to be relatively inexpensive thereby facilitating the use of materials such as ceramic scrap, tile scrap and furnace slag. Alternatively, the first portion of shingle granules deposited on the asphalt coated sheet has requirements as to size consistency and coloring. These requirements result in granules that are relatively expensive compared to filler roofing material. Given the cost differences, no one skilled in the art would ever use the first portion of granules as filler roofing material.
5. The combination of the Ingram and Kiik references fails to provide a first portion of granules applied to the asphalt coated sheet in such a manner that the first portion of granules remains substantially on the upper surface of the asphalt coated sheet. The combination of the Ingram and Kiik references also fails to provide a second portion of granules, comprising a mixture of granules and microorganism resistant granules, applied over the first portion of granules. In addition, the combination of the Ingram and Kiik references fails to provide a two step process including a first step of applying a first portion of granules to the asphalt coated sheet in such a manner that the first portion of granules remains substantially on the upper surface of the asphalt coated sheet, and a second step of applying a second portion of granules, comprising a mixture of granules and microorganism resistant granules, applied over the first portion of granules

In view of the above remarks, Applicants have shown that the amended claims are in proper form for allowance, and the invention, as defined in the amended claims, is not taught nor disclosed by the applied references.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of record, and allowance of all claims.